WHAT IS CLAIMED IS:

1. A thin arc segment magnet having a thickness of 1-4 mm and made of a rare earth sintered magnet having a main component composition comprising 28-33 weight % of R and 0.8-1.5 weight % of B, the balance being substantially Fe, wherein R is at least one of rare earth elements including Y, and T is Fe or Fe and Co, said arc segment magnet having an oxygen content of 0.3 weight % or less based on the total weight of the magnet, a density of 7.56 g/cm^3 or more, a coercivity iHc of 1.1 MA/m (14 kOe) or more at room temperature, and an orientation $Br/4\pi I_{max}$ of 96% or more in an anisotropy-providing direction at room temperature.

2 The arc segment magnet according to claim 1, having parallel anisotropy.

3 The arc segment magnet according to claim 1, having an axial length of 40-100 mm.

4. The arc segment magnet according to claim 1, having a ratio I(105) / I(006) of 0.5-0.8, wherein I(105) represents the intensity of an X-ray diffraction peak from a (105) plane, and I(006) represents the intensity of an X-ray diffraction peak from a (106) plane.

5. A radially anisotropic, arc segment magnet having an inner diameter of 100 mm or less and made of a rare earth sintered magnet having a main component composition comprising 28-33 weight % of R and 0.8-1.5 weight % of B, the balance being substantially Fe, wherein R is at least one of rare earth elements including Y, and T is Fe or Fe and Co, said arc segment magnet having an oxygen content of 0.3 weight % or less based on the total weight of the magnet, a density of 7.56 g/cm^3 or more, a coercivity iHc of 1.1 MA/m (14 kOe) or more at room temperature, and an orientation [Br// / (Br// + Br)] x 100 (%) of 85.5% or more at room temperature, said orientation being defined by a residual magnetic flux

density Br// in a radial direction and a residual magnetic flux density Br in an axial direction perpendicular to said radial direction.

6. The arc segment magnet according to claim 5, wherein it is as thin as 1-4 mm.

7. The arc segment magnet according to claim 5, wherein it is as long as 40-100 mm in an axial direction.

8. A radially anisotropic ring magnet having an inner diameter of 100 mm or less and made of a rare earth sintered magnet having a main component composition comprising 28-33 weight % of R and 0.8-1.5 weight % of B, the balance being substantially Fe, wherein R is at least one of rare earth elements including Y, and T is Fe or Fe and Co, said ring magnet having an oxygen content of 0.3 weight % or less based on the total weight of the magnet, a density of 7.56 g/cm^3 or more, a coercivity iHc of 1.1 MA/m (14 kOe) or more at room temperature, and an orientation [Br// / (Br// + Br)] x 100 (%) of 85.5% or more at room temperature, said orientation being defined by a residual magnetic flux density Br// in a radial direction and a residual magnetic flux density Br in an axial direction perpendicular to the radial direction.

9. The ring magnet according to claim 8, having portions bonded by sintering.

10. A method for producing a rare earth sintered magnet comprising the steps of finely pulverizing an alloy for said rare earth sintered magnet to an average particle size of 1-10 μm in a non-oxidizing atmosphere; introducing the resultant fine powder into a mixture liquid comprising 99.7-99.99 parts by weight of at least one oil selected from the group consisting of a mineral oil, a synthetic oil and a vegetable oil and 0.01-0.3 parts by weight of a nonionic surfactant and/or an anionic surfactant; subjecting the resultant slurry mixture to molding in a magnetic field; and carrying out oil

removal, sintering and heat treatment in this order.

11. The method for producing a rare earth sintered magnet according to claim 10, wherein the molding in a magnetic field is compression molding, and the compressed green body preferably has a density distribution of 4.3-4.7 g/cm^3 to provide a rare earth sintered magnet having a main phase composed of an $R_2T_{14}B$ intermetallic compound, wherein R is at least one of rare earth elements including Y, and T is Fe or Fe and Co.

12. A method for producing a thin arc segment magnet having a thickness of 1-4 mm and made of a rare earth sintered magnet having a main component composition comprising 28-33 weight % of R and 0.8-1.5 weight % of B, the balance being substantially Fe, wherein R is at least one of rare earth elements including Y, and T is Fe or Fe and Co, said arc segment magnet having an oxygen content of 0.3 weight % or less based on the total weight of the magnet, a density of 7.56 g/cm^3 or more, a coercivity iHc of 1.1 MA/m (14 kOe) or more at room temperature, and an orientation $Br/4\pi I_{max}$ of 96% or more in an anisotropy-providing direction at room temperature, said method comprising the steps of finely pulverizing an alloy for said rare earth sintered magnet to an average particle size of 1-10 μm in a non-oxidizing atmosphere; introducing the resultant fine powder into a mixture liquid comprising 99.7-99.99 parts by weight of at least one oil selected from the group consisting of a mineral oil, a synthetic oil and a vegetable oil and 0.01-0.3 parts by weight of a nonionic surfactant and/or an anionic surfactant; subjecting the resultant slurry mixture to molding in a magnetic field; and carrying out oil removal, sintering and heat treatment in this order.

13. A method for producing a radially anisotropic, arc segment magnet having an inner diameter of 100 mm or less and made of a rare earth sintered magnet having a main component composition comprising 28-33

41

weight % of R and 0.8-1.5 weight % of B, the balance being substantially Fe, wherein R is at least one of rare earth elements including Y, and T is Fe or Fe and Co, said arc segment magnet having an oxygen content of 0.3 weight % or less based on the total weight of the magnet, a density of 7.56 g/cm^3 or more, a coercivity iHc of 1.1 MA/m (14 kOe) or more at room temperature, and an orientation [Br// / (Br// + Br)] x 100 (%) of 85.5% or more at room temperature, said orientation being defined by a residual magnetic flux density Br// in a radial direction and a residual magnetic flux density Br in an axial direction perpendicular to said radial direction, said method comprising the steps of finely pulverizing an alloy for said rare earth sintered magnet to an average particle size of 1-10 μm in a non-oxidizing atmosphere; introducing the resultant fine powder into a mixture liquid comprising 99.7-99.99 parts by weight of at least one oil selected from the group consisting of a mineral oil, a synthetic oil and a vegetable oil and 0.01-0.3 parts by weight of a nonionic surfactant and/or an anionic surfactant; subjecting the resultant slurry mixture to molding in a magnetic field; and carrying out oil removal, sintering and heat treatment in this order.

14. A method for producing a radially anisotropic ring magnet having an inner diameter of 100 mm or less and made of a rare earth sintered magnet having a main component composition comprising 28-33 weight % of R and 0.8-1.5 weight % of B, the balance being substantially Fe, wherein R is at least one of rare earth elements including Y, and T is Fe or Fe and Co, said ring magnet having an oxygen content of 0.3 weight % or less based on the total weight of the magnet, a density of 7.56 g/cm^3 or more, a coercivity iHc of 1.1 MA/m (14 kOe) or more at room temperature, and an orientation [Br// / (Br// + Br)] x 100 (%) of 85.5% or more at room temperature, said orientation being defined by a residual magnetic flux

density Br// in a radial direction and a residual magnetic flux density Br in an axial direction perpendicular to the radial direction, said method comprising the steps of finely pulverizing an alloy for said rare earth sintered magnet to an average particle size of 1-10 μm in a non-oxidizing atmosphere; introducing the resultant fine powder into a mixture liquid comprising 99.7-99.99 parts by weight of at least one oil selected from the group consisting of a mineral oil, a synthetic oil and a vegetable oil and 0.01-0.3 parts by weight of a nonionic surfactant and/or an anionic surfactant; subjecting the resultant slurry mixture to molding in a magnetic field; and carrying out oil removal, sintering and heat treatment in this order.